Microflex Microphones

There's never been a more flexible choice

Work a room in more ways than ever with Shure Microflex microphones. Combining sleek, low profile aesthetics and a complete selection of microphones and mounting options, the Microflex line offers the highest standard of quality and efficiency for installed audio applications.

Microflex Gooseneck Microphones

- 12 cm (5"), 25 cm (10"), 30 cm (12"), 38 c, (15") and 45 cm (18") models fit a wide variety of applications from the podium to the conference table
- Interchangeable condenser cartridges with superior audio quality

Microflex Boundary Microphones

- Multi-element, low-profile, or wireless microphone styles available
- Extremely versatile range of placement options for easy configuration and installation

Microflex Overhead Microphones

- Compact and adjustable 10 cm (4") gooseneck
- Interchangeable condenser cartridges for accurate sound reproduction in any setting

Microflex Lavalier and Earset Microphones

- For applications requiring low-profile descreet placement
- Use in wired or wireless applications

APPLICATIONS

- Conference Rooms
- Seminars
- Houses of Worship
- Theaters
- Lecterns

PRODUCT HIGHLIGHTS

- Wide selection for customized installations
- Wired or wireless models available
- Superior audio quality
- CommShield™ Technology for improved RF resistance
- Sleek, low-profile designs

CommShield™ Technology

MX405, MX410 and MX415 Miniature Gooseneck Microphones

Flexible in more ways than one, Microflex Miniature Gooseneck Microphones deliver unsurpassed style and performance for conference rooms and similar applications. Offering desktop or mounted bases, wired or wireless options, and even interchangeable cartridges, it's easy to get the perfect fit for your application. Fully compatible with SLX® Wireless Systems, including the SLX4L wireless receiver with logic signal output for applications requiring logic functionality.

Specifications

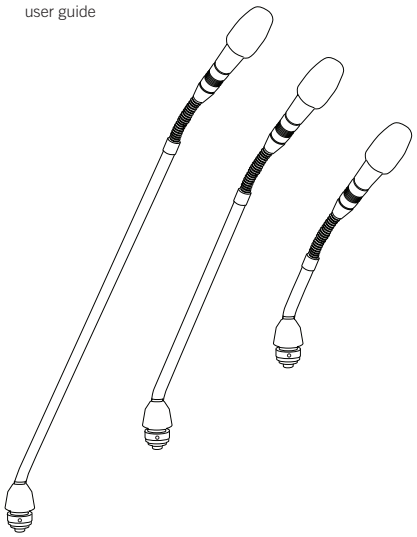
Type	Condenser (electret bias)
Frequency Response	50 Hz – 17 kHz
Polar Pattern	MX405/C, MX410/C, MX415/C: Cardioid MX405/S, MX410/S, MX415/S: Supercardioid
Output Impedance	EIA rated at 150 Ω (170 Ω actual)
Output Configuration	Active balanced
Sensitivity at 1 kHz, open circuit voltage; 1 Pascal = 94 dB SPL	Cardioid: -35 dBV/Pa (18 mV) Supercardioid: -34 dBV/Pa (21 mV)
Maximum SPL 1 kHz at 1% THD, 1 kΩ load	Cardioid: 121 dB Supercardioid: 120 dB
Equivalent Output Noise A-weighted	Cardioid: 28 dB SPL Supercardioid: 27 dB SPL
Signal-to-Noise Ratio referenced at 94 dB SPL at 1 kHz	Cardioid: 66 dB Supercardioid: 67 dB
Dynamic Range 1 kΩ load at 1 kHz	93 dB
Common Mode Rejection 10 Hz to 100 kHz	45 dB minimum
Preamplifier Output Clipping Level 1% THD	-8 dBV (0.4 V)
Polarity	3-Pin XLR: Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output XLR connector. 5-Pin XLR: Positive sound pressure on diaphragm produces positive voltage on pin 4 relative to pin 2 of output XLR connector.
Weight	MX405: 54 g MX410: 68 g MX415: 70 g MX400DP: 516 g MX400SMP (w/ Kit): 125 g
Logic Connections	LED IN: Active low (≤1.0 V), TTL compatible. Absolute maximum voltage: -0.7 V to 50 V. LOGIC OUT: Active low (≤1.0 V), sinks up to 20 mA, TTL compatible. Absolute maximum voltage: -0.7 V to 50 V (up to 50 V through 3 kΩ).
Mute Switch Attenuation	-50 dB minimum
Cable	MX400DP: 6 m attached cable with shielded audio pair terminated at a 3-pin male XLR and three unterminated conductors for logic control
Environmental Conditions	Operating temperature: -18 – 57 °C Storage temperature: -29 – 74 °C Relative humidity: 0 – 95%
Power Requirements	48 – 52 Vdc phantom, 8.0 mA

Available Models

The polar pattern of the cartridge is indicated by the model number suffix: C = Cardioid, S = Supercardioid, N = No Cartridge

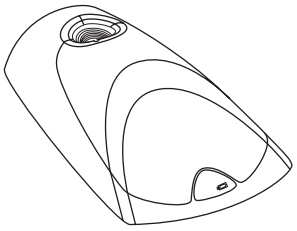
MX405/C, MX405/S	127 mm (5 inch) gooseneck, bi-color status indicator, includes surface mount preamp
MX405R/N	127 mm (5 inch) gooseneck, light ring, includes surface mount preamp
MX410/C, MX410/S	254 mm (10 inch) gooseneck, bi-color status indicator, includes surface mount preamp
MX410R/N	254 mm (10 inch) gooseneck, light ring, includes surface mount preamp
MX415/C, MX415/S	381 mm (15 inch) gooseneck, bi-color status indicator, includes surface mount preamp
MX415R/N	381 mm (15 inch) gooseneck, light ring, includes surface mount preamp
MX405LP/C, MX405LP/S	127 mm (5 inch) gooseneck, bi-color status indicator, less preamp
MX405RLP/N	127 mm (5 inch) gooseneck, light ring, less preamp
MX410LP/C, MX410LP/S	254 mm (10 inch) gooseneck, cardioid, bi-color status indicator, less preamp
MX410RLP/N	254 mm (10 inch) gooseneck, light ring, less preamp
MX415LP/C, MX415LP/S	381 mm (15 inch) gooseneck, cardioid, bi-color status indicator, less preamp
MX415RLP/N	381 mm (15 inch) gooseneck, light ring, less preamp

*for detailed dimensions please reference MX405/410/415 user guide



MX415, MX410 and **MX405**
Miniature goosenecks

MX400SMP
Surface mount preamp



MX400DP
Wired desktop base (also available as MX890 wireless desktop base)

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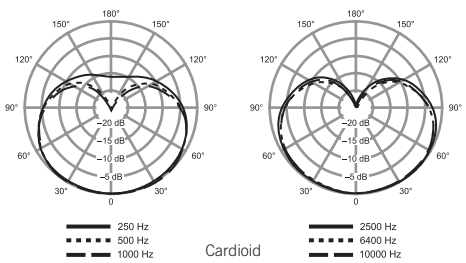
MX405, MX410 and MX415 Miniature Gooseneck Microphones

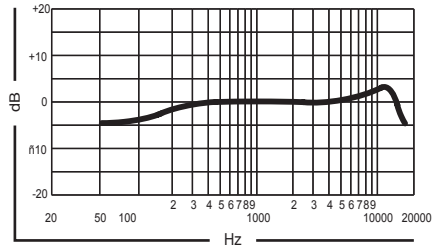
Optional Accessories and Replacement Parts

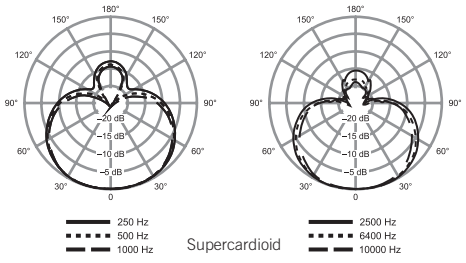
MX400SMP	Surface mount preamp	**R185B**	Black cardioid cartridge for all Microflex models	**A412MWS**	Metal locking windscreen
MX400DP	Wired desktop base. Includes 6.1 m attached cable	**R184B**	Black supercardioid cartridge for all Microflex models	**95A2487**	Tapered windscreen
MX890	Wireless desktop base, compatible with SLX Wireless Systems	**R183B**	Black Omnidirectional cartridge for all Microflex models		

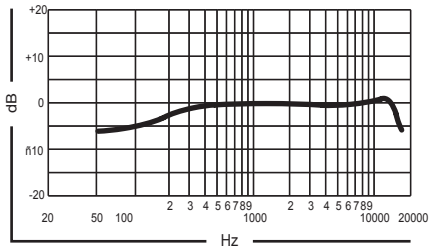
Furnished Accessories

Models with included Preamp		**All Models**	
MX400SMP	Surface mount preamp	**RK513WS**	Snap-fit foam windscreen (4 pcs.)
65A405	Rubber isolation rings		
65A2190	Wing nut		
95A2529	5-pin XLR-F		
65A2166	Cap		









Architectural Specifications

MX405/C – The microphone shall be an electret condenser 127 mm gooseneck microphone (5") with cardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be mounted in the included MX400SMP preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 18 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX405/S – The microphone shall be an electret condenser 127 mm gooseneck microphone (5") with supercardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be mounted in the included MX400SMP preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX405R/N – The microphone shall be an electret condenser 127 mm gooseneck microphone (5") with no included cartridge, black finish, and logic controlled, upper red light ring status indicator. The microphone shall be mounted in the included MX400SMP preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX410/C – The microphone shall be an electret condenser 254 mm gooseneck microphone (10") with cardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be mounted in the included MX400SMP preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 18 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX410/S – The microphone shall be an electret condenser 254 mm gooseneck microphone (10") with supercardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be mounted in the included MX400SMP preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX410R/N – The microphone shall be an electret condenser 254 mm gooseneck microphone (10") with no included cartridge, black finish, and logic controlled, upper red light ring status indicator. The microphone shall be mounted in the included MX400SMP preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

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MX405, MX410 and MX415 Miniature Gooseneck Microphones

MX415/C – The microphone shall be an electret condenser 381 mm gooseneck microphone (15") with cardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be mounted in the included MX400SMP preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 18 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX415/S – The microphone shall be an electret condenser 381 mm gooseneck microphone (15") with supercardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be mounted in the included MX400SMP preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX415R/N – The microphone shall be an electret condenser 381 mm gooseneck microphone (15") with no included cartridge, black finish, and logic controlled, upper red light ring status indicator. The microphone shall be mounted in the included MX400SMP preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX405LP/C – The microphone shall be an electret condenser 127 mm gooseneck microphone (5") with cardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be compatible with the MX400SMP or MX890. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 18 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX405LP/S – The microphone shall be an electret condenser 127 mm gooseneck microphone (5") with supercardioid polar pattern, black finish, and logic controlled bi-colorstatus indicator. The microphone shall be compatible with the MX400SMP, MX400DP or MX890. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX405RLP/N – The microphone shall be an electret condenser 127 mm gooseneck microphone (5") with no included cartridge, black finish, and logic controlled, upper red light ring status indicator. The microphone shall be compatible with the MX400SMP, MX400DP or MX890. The microphone shall be resistant to RF interference from portable mobile and handheld devices.

MX410LP/C – The microphone shall be an electret condenser 254 mm gooseneck microphone (10") with cardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be compatible with the MX400SMP or MX890. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 18 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX410LP/S – The microphone shall be an electret condenser 254 mm gooseneck microphone (10") with supercardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be compatible with the MX400SMP, MX400DP or MX890. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX410RLP/N – The microphone shall be an electret condenser 254 mm gooseneck microphone (10") with no included cartridge, black finish, and logic controlled, upper red light ring status indicator. The microphone shall be compatible with the MX400SMP, MX400DP or MX890. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX415LP/C – The microphone shall be an electret condenser 381 mm gooseneck microphone (15") with cardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be compatible with the MX400SMP or MX890. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 18 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX415LP/S – The microphone shall be an electret condenser 381 mm gooseneck microphone (15") with supercardioid polar pattern, black finish, and logic controlled bi-color status indicator. The microphone shall be compatible with the MX400SMP, MX400DP or MX890. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX415RLP/N – The microphone shall be an electret condenser 381 mm gooseneck microphone (15") with no included cartridge, black finish, and logic controlled, upper red light ring status indicator. The microphone shall be compatible with the MX400SMP, MX400DP or MX890. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

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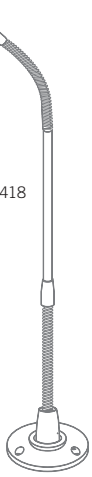
MX412 and MX418 Standard Gooseneck Microphones

Microflex Standard Gooseneck Microphones provide the added length and flexibility needed for speakers in environments like lecterns, pulpits, and courtrooms. Available in four models with a variety of lenghts and mounting styles to choose from, Microflex Gooseneck microphones feature high sensitivity and balanced, transformerless output for maximum resistance to electromagnetic hum and RF interference, even over long cable runs.

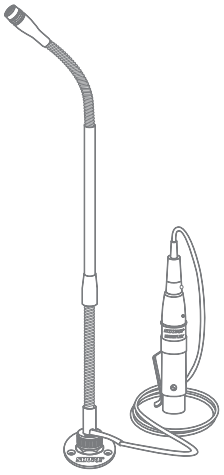
Specifications

Type	Condenser (electret bias)
Frequency Response	50 Hz – 17 kHz
Polar Pattern	MX412/C, MX418/C: Cardioid MX412/S, MX418/S: Supercardioid Omnidirectional cartridge available separately
Output Impedance	EIA rated at 150 Ω (170 Ω actual)
Sensitivity at 1 kHz, open circuit voltage; 1 Pascal = 94 dB SPL	Cardioid: -35 dBV/Pa (17.8 mV) Supercardioid: -33.5 dBV/Pa (21.1 mV) Omnidirectional: -27.5 (42.2 mV)
Maximum SPL 1 kHz at 1% THD, 1 kΩ load	Cardioid: 124.2 dB Supercardioid: 122.7 dB Omnidirectional: 116.7 dB
Equivalent Output Noise A-weighted	Cardioid: 28 dB SPL Supercardioid: 26.5 dB SPL Omnidirectional: 20.5 dB SPL
Signal-to-Noise Ratio referenced at 94 dB SPL at 1 kHz	Cardioid: 66 dB Supercardioid: 67.5 dB Omnidirectional: 73.5 dB
Dynamic Range 1 kΩ load at 1 kHz	96.2 dB 100 dB at 0 gain (internal modification)
Common Mode Rejection	45 dB minimum (10 Hz – 100 kHz)
Preamplifier Output Clipping Level 1% THD	-6 dBV (0.5 V)
Polarity	Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output XLR connector.
Mute Switch Attenuation	-50 dB minimum
Cable	MX412D and MX418D: The 3 m attached custom cable contains a shielded audio pair and three unshielded conductors for logic control. Overall diameter = 4 mm
Environmental Conditions	Operating temperature range: -18° – 57° C Relative humidity: 0 – 95%
Power Requirements	11 – 52 Vdc phantom, 8.0 mA

*for detailed dimensions please reference MX412/418 user guides



MX418
Gooseneck with attached preamp and shockmount



MX418SE
Gooseneck with in-line preamp and side exit cable

Available Models

The polar pattern of the cartridge is indicated by the model number suffix: C = Cardioid, S = Supercardioid, N = No Cartridge

MX412/C, MX412/S, MX412/N	305 mm (12 inch) gooseneck, attached XLR preamp, shock mount, flange mount, snap-fit foam windsreen
MX418/C, MX418/S, MX418/N	457 mm (18 inch) gooseneck, attached XLR preamp, shock mount, flange mount, snap-fit foam windsreen
MX412S/C, MX412S/S, MX412S/N	305 mm (12 inch) gooseneck, attached XLR preamp, Shock Mount, flange mount, snap-fit foam wndscreen, mute switch, LED Indicator
MX418S/C, MX418S/S, MX418S/N	457 mm (18 inch) gooseneck, attached XLR preamp, shock mount, flange mount, snap-fit foam windscreen, mute switch, LED indicator
MX412SE/C, MX412SE/S, MX412SE/N	305 mm (12 inch) gooseneck, in-line preamp, shock mount, flange mount, 3 m side-exit (or bottom-exit) cable, snap-fit foam windscreen
MX418SE/C, MX418SE/S, MX418SE/N	457 mm (18 inch) gooseneck, in-line preamp, shock mount, flange mount, 3 m side-exit (or bottom-exit) cable, snap-fit foam windscreen
MX412D/C, MX412D/S, MX412D/N	305 mm (12 inch) gooseneck, desktop base with 3 m cable, logic functions, programmable switch and LED indicator, snap-fit foam windscreen
MX418D/C, MX418D/S, MX418D/N	457 mm (18 inch) gooseneck, desktop base with 3 m cable, logic functions, programmable switch and LED indicator, snap-fit foam windscreen

MX412D
Gooseneck with attached desktop base

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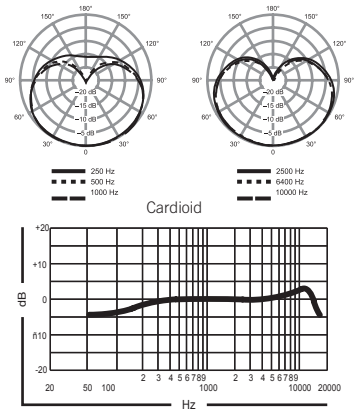
MX412 and MX418 Standard Gooseneck Microphones

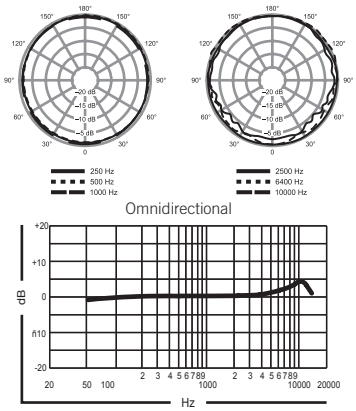
Furnished Accessories

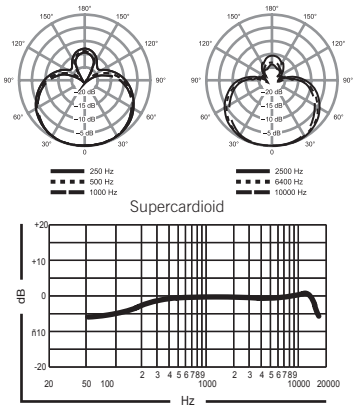
MX412, MX418, MX412S, MX418S Models		MX412SE, MX418SE Models		MX412D, MX418D Models	
65B8264	Flange	**A12C**	Flange and nut	**RK412WS**	Snap-fit foam windscreen (1 furnished, 4 in replacement pack)
65B8265	Retainer	**80A476**	Clamp		
80A439	Isolation ring	**A400SM**	Shock mount		
RK412WS	Snap-fit foam windscreen (1 furnished, 4 in replacement pack)	**RK412WS**	Snap-fit foam windscreen (1 furnished, 4 in replacement pack)		
A400SM	Shock mount	**31B1762A**	Shock mount adapter		
80A67	Hex wrench #4				

Optional Accessories and Replacement Parts

A99WS	Foam ball windscreen	**R183B**	Black omnidirectional cartridge for all Microflex models	**A412MWS**	Metal locking windscreen
RK100PK	Replacement in-line preamplifier (SE models)	**R184B**	Black supercardioid cartridge for all Microflex models	**A412B**	Desktop base
C130	Custom logic cable (specify length)	**R185B**	Black cardioid cartridge for all Microflex models	**A57F**	Stand adapter







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MX412 and MX418 Standard Gooseneck Microphones

Architectural Specifications

MX412/C – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with cardioid polar pattern, interchangeable cartridges integrated XLR preamp, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412/S – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with supercardioid polar pattern, integrated XLR preamp, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412/N – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with no included cartridge, integrated XLR preamp, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418/C – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with cardioid polar pattern, integrated XLR preamp, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418/S – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with supercardioid polar pattern, integrated XLR preamp, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418/N – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with no included cartridge, integrated XLR preamp, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412S/C – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with cardioid polar pattern, integrated XLR preamp, black finish, mute switch, and LED indicator. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412S/S – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with supercardioid polar pattern, integrated XLR preamp, black finish, mute switch, and LED indicator. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412S/N – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with integrated XLR preamp, black finish, mute switch, and LED indicator. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418S/C – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with cardioid polar pattern, integrated XLR preamp, black finish, mute switch, and LED indicator. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418S/S – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with supercardioid polar pattern, integrated XLR preamp, black finish, mute switch, and LED indicator. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418S/N – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with integrated XLR preamp, black finish, mute switch, and LED indicator. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412SE/C – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with cardioid polar pattern, black finish, and 3 m side-exit (or bottom-exit) cable that terminates to a 4-pin miniature (TA4F) connector. The microphone shall be connected to the included in-line preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412SE/S – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with supercardioid polar pattern, black finish, and 3 m side-exit (or bottom-exit) cable that terminates to a 4-pin miniature (TA4F) connector. The microphone shall be connected to the included in-line preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412SE/N – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with no included cartridge, black finish, and 3 m side-exit (or bottom-exit) cable that terminates to a 4-pin miniature (TA4F) connector. The microphone shall be connected to the included in-line preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418SE/C – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with cardioid polar pattern, black finish, and 10" (3m) side-exit (or bottom-exit)) cable that terminates to a 4-pin miniature (TA4F) connector. The microphone shall be connected to the included in-line preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418SE/S – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with supercardioid polar pattern, black finish, and 10" (3m) side-exit (or bottom-exit) cable that terminates to a 4-pin miniature (TA4F) connector. The microphone shall be connected to the included in-line preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418SE/N – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with no included cartridge, black finish, and 10" (3m) side-exit (or bottom-exit) cable that terminates to a 4-pin miniature (TA4F) connector. The microphone shall be connected to the included in-line preamp. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412D/C – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with cardioid polar pattern and black finish. The microphone shall be mounted on a desktop base with a logic controlled programmable switch and LED indicator. The microphone shall include an attached 3 m cable. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412D/S – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with supercardioid polar pattern and black finish. The microphone shall be mounted on a desktop base with a logic controlled programmable switch and LED indicator. The microphone shall include an attached 3 m cable. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX412D/N – The microphone shall be an electret condenser 305 mm gooseneck microphone (12") with no included cartridge and black finish. The microphone shall be mounted on a desktop base with a logic controlled programmable switch and LED indicator. The microphone shall include an attached 3 m cable. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418D/C – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with cardioid polar pattern and black finish. The microphone shall be mounted on a desktop base with a logic controlled programmable switch and LED indicator. The microphone shall include an attached 3 m cable. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418D/S – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with supercardioid polar pattern and black finish. The microphone shall be mounted on a desktop base with a logic controlled programmable switch and LED indicator. The microphone shall include an attached 3 m cable. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX418D/N – The microphone shall be an electret condenser 457 mm gooseneck microphone (18") with no included cartridge and black finish. The microphone shall be mounted on a desktop base with a logic controlled programmable switch and LED indicator. The microphone shall include an attached 3 m cable. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

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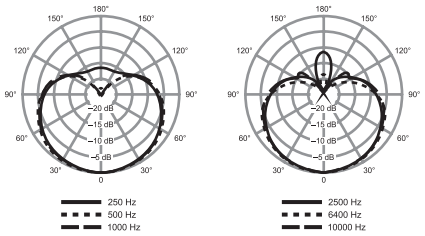
MX396 Multi-Element Boundary Microphones

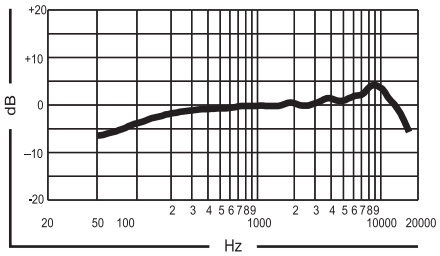
Microflex Multi-Element Boundary Microphones deliver a unique and versatile tool for conference room installations. Clean and simple in appearance, Multi-Element Boundary mics come in two or three element configurations, combining the coverage of multiple microphones into one small, compact package.

Specifications

Type	Condenser (electret bias)
Frequency Response	50 Hz – 17 kHz
Output Impedance	EIA rated at 150 Ω (170 Ω actual)
Output Configuration	Active balanced
Sensitivity at 1 kHz, open circuit voltage; 1 Pa = 94 dB SPL	-35 dBV/Pa (18 mV)
Maximum SPL 1 kHz at 1% THD, 1 kΩ load	122 dB
Equivalent Output Noise A-weighted	28 dB SPL
Signal-to-Noise Ratio referenced at 94 dB SPL at 1 kHz	66 dB
Dynamic Range 1 kΩ load at 1 kHz	94 dB
Common Mode Rejection 10 Hz to 100 kHz	45 dB minimum
Preamplifier Output Clipping Level 1% THD	-6 dBV (0.5 V)
Weight	Net: 587 g Packaged: 816 g
Logic Connections	LED IN: Active low (≤1.0 V), sinks up to 20 mA, TTL compatible. Absolute maximum voltage: -0.7 V to 50 V (up to 50 V through 3 kΩ). LOGIC OUT: Active low (≤1.0V), sinks up to 20 mA, TTL compatible. Absolute maximum voltage: -0.7 V to 50 V (up to 50 V through 3 kΩ).
Mute Switch Attenuation	-50 dB minimum
Cable	6 m attached unterminated cable with three shielded audio pairs and three shielded conductors for logic control.
Environmental Conditions	Operating temperature: -18 – 57 °C Storage temperature: -29 – 74 °C Relative humidity: 0 – 95%
Power Requirements	MX396/C-DUAL: 48 – 52 Vdc phantom, 10.0 mA MX396/C-TRI: 48 – 52 Vdc phantom, 12.0 mA

MX396 Multi-Element boundary microphone





Available Models

MX396/C-DUAL	Dual-Element 0-180 degrees, back or bottom exit cable, mute output, LED input
MX396/C-TRI	Tri-Element 90-0-90 mic, adjustable to 120-120-120 degrees, back or bottom exit cable, mute output, LED input

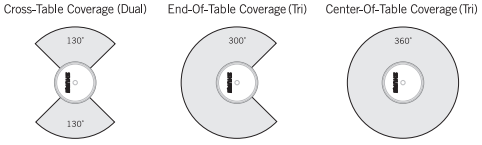
Furnished Accessories and Replacement Parts

65A2190	Fastening wingnut	**R185B**	Cardioid replacement cartridge (x 1)
31A2165	Fastening tube	**65A405**	Rubber isolation rings

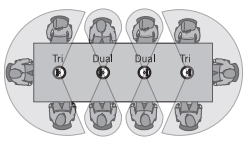
Architectural Specifications

MX396/C-Dual – The microphone shall be a surface mounted, black electret condenser microphone with two cardioid polar pattern elements, each with individual channel output. The microphone shall include a logic enabled, bi-color status indicator and programmable mute switch. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency range shall be 50 Hz to 17 kHz and the sensitivity of each individual element, 18 mV/Pa.

MX396/C-Tri – The microphone shall be a surface mounted, black electret condenser microphone with three cardioid polar pattern elements, each with individual channel output. The microphone shall include a logic enabled, bi-color status indicator and programmable mute switch. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency range shall be 50 Hz to 17 kHz and the sensitivity of each individual element, 18 mV/Pa.



Example of Boardroom Table Mic Placement Coverage



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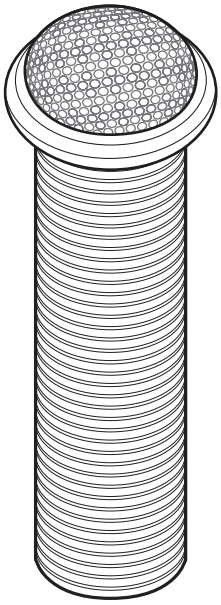
MX395 Low Profile Boundary Microphones

The Microflex Low Profile Boundary Microphone is an ideal table microphone when minimal presence is of high priority. Perfect for meeting rooms, these microphones deliver exceptional sound pickup while barely being noticed. Choose from a selection of colors and pickup patterns for customized table and ceiling installations.

Specifications

Type	Condenser (electret bias)
Frequency Response	50 HZ – 17 kHz
Polar Pattern	MX395/O: Omnidirectional MX395/C: Cardioid MX395/BI: Bidirectional
Output Impedance	EIA rated at 150 Ω (170 Ω actual)
Output Configuration	Active balanced
Sensitivity at 1 kHz , open circuit voltage; 1 Pascal = 94 dB SPL	Cardioid: -35 dBV/Pa (18 mV) Omnidirectional: -28 dBV/Pa (42 mV) Bidirectional: -37 dBV/Pa (14 mV)
Maximum SPL 1 kHz at 1% THD, 1 kΩ load	Cardioid: 121 dB Omnidirectional: 114 dB Bidirectional: 123 dB
Equivalent Output Noise A-weighted	Cardioid: 28 dB SPL Omnidirectional: 21 dB SPL Bidirectional: 29 dB
Signal-to-Noise Ratio referenced at 94 dB SPL at 1 kHz	Cardioid: 66 dB Omnidirectional: 73 dB Bidirectional: 65 dB
Dynamic Range 1 kΩ load at 1 kHz	Cardioid: 93 dB Omnidirectional: 93 dB Bidirectional: 94 dB
Common Mode Rejection	45 dB minimum 10 Hz to 100 kHz
Preamplifier Output Clipping Level 1% THD	-8 dBV (0.4 V)
Polarity	3-pin XLR: Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output XLR connector. 5-pin XLR: Positive sound pressure on diaphragm produces positive voltage on pin 4 relative to pin 2 of output XLR connector.
Weight	Net: 136 g; Packaged: 374 g
Logic Connections	LED IN: Active low (≤ 1.0 V), TTL compatible. Absolute maximum voltage: -0.7 V to 50 V.
Environmental Conditions	Operating temperature: -18 – 57 °C Storage temperature: -29 – 74 °C Relative humidity: 0 – 95%
Power Requirements	MX395: 11 – 52 Vdc phantom, 2.0 mA MX395-LED: 48 – 52 Vdc phantom, 8.0 mA



MX395
Low Profile
Boundary Mic

Available Models

The polar pattern of the cartridge is indicated by the model number suffix: C = Cardioid, O = Omnidirectional, BI = Bidirectional

MX395B/C, MX395B/BI, MX395B/O	Black, 3-pin XLR
MX395AL/C, MX395AL/BI, MX395AL/O	Aluminum, 3-pin XLR
MX395W/O	White, 3-pin XLR
MX395B/C-LED, MX395B/BI-LED, MX395B/O-LED	Black, 5-pin XLR, LED, bi-color status indicator

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MX395 Low Profile Boundary Microphones

Furnished Accessories

65A405	Rubber isolation rings
95A1118 (LED Models only)	5-pin XLR-female connector
65A2190	Wing nut

Architectural Specifications

MX395AL/C – The microphone shall be a surface mounted, aluminum finish, electret condenser microphone with low-cut switch and cardioid polar pattern. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17 kHz and the sensitivity 18 mV/Pa.

MX395B/C – The microphone shall be a surface mounted, black, electret condenser microphone with low-cut switch and cardioid polar pattern. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17 kHz and the sensitivity 18 mV/Pa.

MX395B/C-LED – The microphone shall be a surface mounted, black, electret condenser microphone with low-cut switch and cardioid polar pattern. The microphone shall include a logic controlled, bi-color status indicator. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17 kHz and the sensitivity 18 mV/Pa.

MX395AL/O – The microphone shall be a surface mounted, aluminum finish, electret condenser microphone with low-cut switch and omnidirectional polar pattern. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17kHz and the sensitivity 42 mV/Pa.

MX395B/O – The microphone shall be a surface mounted, black, electret condenser microphone with low-cut switch and omnidirectional polar pattern. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17kHz and the sensitivity 42 mV/Pa.

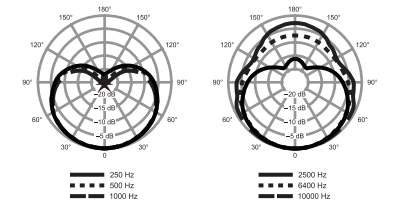
MX395B/O-LED – The microphone shall be a surface mounted, black, electret condenser microphone with low-cut switch and omnidirectional polar pattern. The microphone shall include a logic controlled, bi-color status indicator. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17 kHz and the sensitivity 42 mV/Pa.

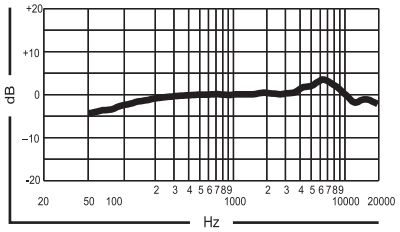
MX395W/O – The microphone shall be a surface mounted, white, electret condenser microphone with low-cut switch and omnidirectional polar pattern. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17kHz and the sensitivity 42 mV/Pa.

MX395AL/BI – The microphone shall be a surface mounted, aluminum finish, electret condenser microphone with low-cut switch and bi-directional polar pattern. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17kHz and the sensitivity 14 mV/Pa.

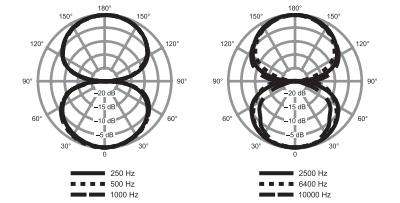
MX395B/BI – The microphone shall be a surface mounted, black, electret condenser microphone with low-cut switch and bi-directional polar pattern. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17 kHz and the sensitivity 14 mV/Pa.

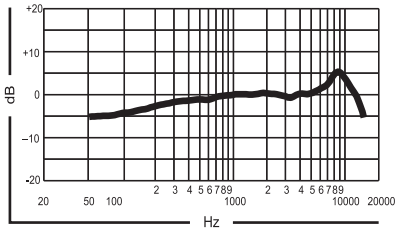
MX395B/BI-LED – The microphone shall be a surface mounted, black, electret condenser microphone with low-cut switch and bi-directional polar pattern. The microphone shall include a logic controlled, bi-color status indicator. The visible diameter and height of the microphone above the mounting surface shall be 32 mm and 24 mm. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response range shall be 50 Hz to 17 kHz and the sensitivity 14 mV/Pa.



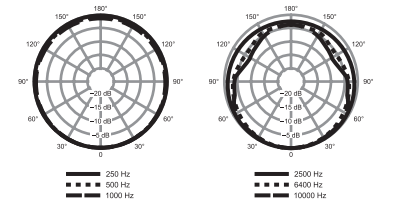


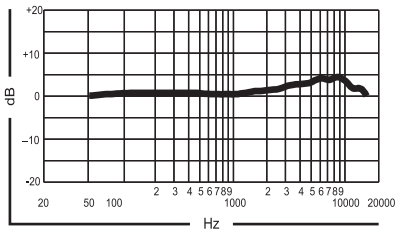
Cardioid





Bidirectional





Omnidirectional

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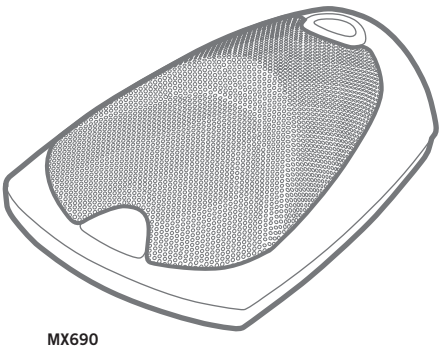
MX690 Wireless Boundary and MX890 Wireless Desktop Base

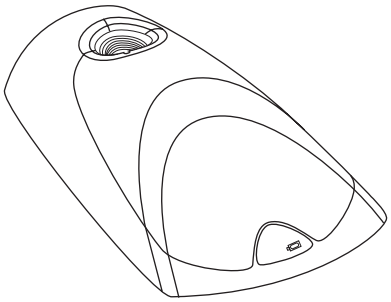
The Microflex Wireless Boundary Microphone as well as the Wireless Desktop Base offer total freedom of placement with no holes to drill or cables to run for installation. They are the perfect solution for conference and meeting spaces where users demand flexibility and high performance. Compatible with Shure SLX Wireless Systems, including the SLX4L receiver with logic signal output for applications requiring logic functionality.

Specifications

MX690 Microphone Specifications	
Type	Condenser (electret bias)
Frequency Response	50 Hz – 17 kHz
Polar Pattern	Cardioid
Sensitivity at 1 kHz, open circuit voltage; 1 Pascal = 94 dB SPL	-33 dBV/Pa (22 mV)
Dynamic Range	96 dB 1 kΩ load at 1 kHz
Common Mode Rejection	45 dB minimum 10 Hz to 100 kHz
Preamplifier Output Clipping Level 1% THD	-6 dBV (0.5 V)
Polarity	Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output XLR connector or tip of 1/4" phone plug (both on SLX4 or SLX4L wireless receiver).
MX690 and MX890 Transmitter Specifications	
RF Power	10 mW
Operating Range	30 m Note: Actual range depends on RF signal absorption, reflection, and interference
Frequency Stability	±10 ppm
Maximum Frequency Deviation	45 kHz
Oscillator Type	Phase-locked loop (PLL) controlled synthesizer
Power Requirements	3 V (2 AA alkaline or rechargeable batteries)
Battery Life	≥8 hours (alkaline)
Power Consumption	130 mA, ± 15 mA
Operating Temperature Range	-18 – 57 °C Note: Battery may limit this range
Dimensions (H x W x L)	43 mm x 87 mm x 148 mm
Weight	**MX690** Net: 318 g Packaged: 516 g **MX890** Net: 312 g Packaged: 530 g



MX690
Wireless Boundary Microphone



MX890
Wireless Desktop Base

Available Models

MX690	Wireless boundary microphone, cardioid, mute switch
MX890	Wireless desktop base for MX405 and MX410 models, mute switch

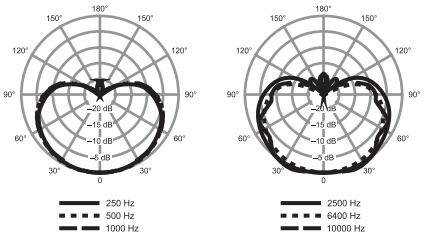
Optional Accessories

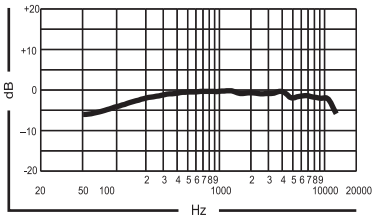
SLX4	Wireless diversity receiver	**SLX4L**	Wireless diversity receiver with logic output

Architectural Specifications

MX690 – The microphone shall be a surface mounted, black condenser microphone with a cardioid polar pattern. The microphone shall include a bi-color LED status indicator and a programmable mute switch. The microphone shall have an integrated wireless transmitter for audio signals with switchable carrier frequencies as well as preprogrammed groups up to 12 compatible channels. An infrared signal shall be used to synchronize the frequency between transmitter and receiver. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency range shall be 50 Hz to 17 kHz and the sensitivity shall be 22 mV/Pa.

MX890 – The wireless desk stand shall be a transmitter base for audio signals with switchable carrier frequencies as well as preprogrammed groups with up to 12 compatible channels. An infrared signal shall be used to synchronize the frequency between transmitter and receiver. The wireless desktop base shall be used with the MX405 and MX410 series gooseneck microphones and shall feature a programmable mute switch.





MX690

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MX202 Overhead Microphones

Easily hung from ceilings, Microflex Overhead Microphones capture sound from speakers, choirs, stages, and more conveniently and unobtrusively from above. Compact and flexible, overhead microphones each feature a 10 cm (4") gooseneck, multiple preamp options for easy installation into ceilings or microphone stands, and versatile condenser cartridges for accurate sound reproduction in any setting.

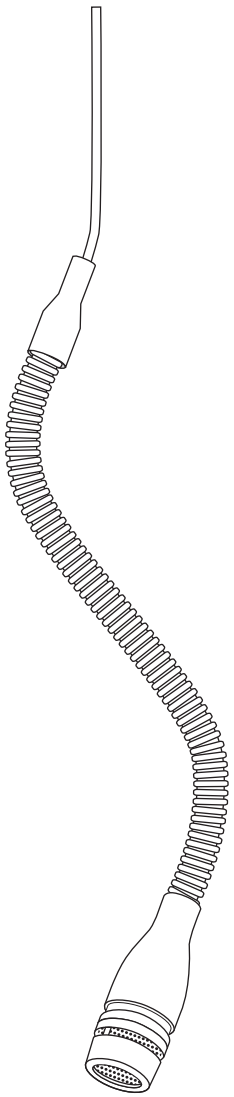
Specifications

Type	Condenser (electret bias)
Frequency Response	50 Hz – 17 kHz
Polar Pattern	MX202/C: Cardioid MX202/O: Omnidirectional MX202/S: Supercardioid
Output Impedance	150 Ω rated at EIA (180 Ω actual)
Sensitivity (at 1 kHz , open circuit voltage; 1 Pascal = 94 dB SPL)	Cardioid: -35.0 dBV/Pa (17.8 mV) Supercardioid: -33.5 dBV/Pa (21.1 mV) Omnidirectional: -27.5 dBV/Pa (42.2 mV)
Maximum SPL (1 kHz at 1% THD, 1 kΩ load; All values +6 dB at 0 gain)	Cardioid: 124.2 dB Supercardioid: 122.7 dB Omnidirectional: 116.7 dB
Equivalent Output Noise A-weighted	Cardioid: 28.0 dB SPL Supercardioid: 26.5 dB SPL Omnidirectional: 20.5 dB SPL
Signal to Noise Ratio (referenced at 94 dB SPL)	Cardioid: 66.0 dB Supercardioid: 67.5 dB Omnidirectional: 73.5 dB
Dynamic Range 1 kΩ load at 1 kHz	96.2 dB 100 dB at 0 gain (internal modification)
Common Mode Rejection 10 Hz to 100 kHz	45 dB minimum
Preamplifier Output Clipping Level 1% THD	-6 dBV (0.5 V)
Polarity	Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output connector.
Power Requirements	11 – 52 Vdc phantom, 2.0 mA
Environmental Requirements	Operating temperature range: -18° C – 57° C Relative humidity: 0 – 95%

Available Models

The polar pattern of the cartridge is indicated by the model number suffix: C = Cardioid, S = Supercardioid, N = No Cartridge

MX202B/C, MX202B/S, MX202B/N	Black mini-condenser microphone; includes cable, in-line preamplifier, and stand adapter
MX202W/C, MX202W/S, MX202W/N	White mini-condenser microphone; includes cable, in-line preamplifier, and stand adapter
MX202BP/C, MX202BP/S, MX202BP/N	Black mini-condenser microphone; includes cable and plate-mounted preamplifier
MX202WP/C, MX202WP/S, MX202WP/N	White mini-condenser microphone; includes cable and plate-mounted preamplifier



MX202
Overhead Microphone

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MX202 Overhead Microphones

Furnished Accessories

RK183WS (Black) **95B2064 (White)**	Black snap-fit foam windscreen White snap-fit foam windscreen	**65B1752**	Stand adapter (MX202B)
RK202PK	Preamplifier kit, plate mounted, White (MX202BP & MX202WP)	**RK100PK/** **RK100PKW**	In-line preamplifier (MX202W & MX202B)
80A476	Clamp (MX202B & MX202WP)	**80B489**	Hang clip

Optional Accessories and Replacement Parts

A202BB	Desk stand	**R183B (Black)** **R183W (White)**	Omnidirectional cartridge for all Microflex models
80A479	Strain relief (MX202BP & MX202WP)	**R184B (Black)** **R184W (White)**	Supercardioid cartridge for all Microflex models
A57F	Stativ adapter (MX202B)	**R185B (Black)** **R185W (White)**	Cardioid cartridge for all Microflex models

Architectural Specifications

MX202B/C – The microphone shall be an electret condenser overhead microphone with a cardioid polar pattern, 10 cm gooseneck, in-line preamplifier, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX202B/S – The microphone shall be an electret condenser overhead microphone with a supercardioid polar pattern, 10 cm gooseneck, in-line preamplifier, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX202B/N – The microphone shall be an electret condenser overhead microphone with no included cartridge, 10 cm gooseneck, in-line preamplifier, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX202W/C – The microphone shall be an electret condenser overhead microphone with a cardioid polar pattern, 10 cm gooseneck, in-line preamplifier, and white finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX202W/S – The microphone shall be an electret condenser overhead microphone with a supercardioid polar pattern, 10 cm gooseneck, in-line preamplifier, and white finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX202W/N – The microphone shall be an electret condenser overhead microphone with no included cartridge, 10 cm gooseneck, in-line preamplifier, and white finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX202BP/C – The microphone shall be an electret condenser overhead microphone with a cardioid polar pattern, 10 cm gooseneck, a plate-mounted preamplifier, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

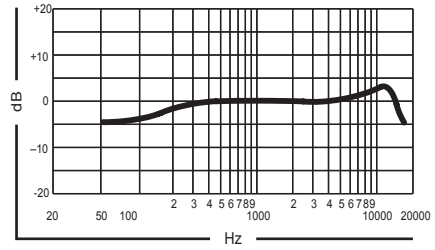
MX202BP/S – The microphone shall be an electret condenser overhead microphone with a supercardioid polar pattern, 10 cm gooseneck, a plate-mounted preamplifier, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

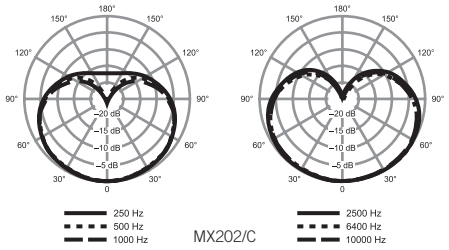
MX202BP/N – The microphone shall be an electret condenser overhead microphone with no included cartridge, 10 cm gooseneck, a plate-mounted preamplifier, and black finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

MX202WP/C – The microphone shall be an electret condenser overhead microphone with a cardioid polar pattern, 10 cm gooseneck, a plate-mounted preamplifier, and white finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.8 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

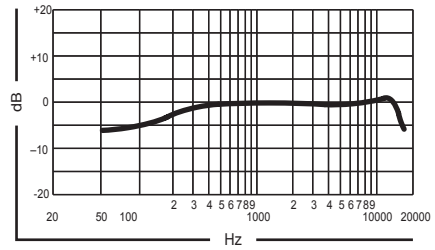
MX202WP/S – The microphone shall be an electret condenser overhead microphone with a supercardioid polar pattern, 10 cm gooseneck, a plate-mounted preamplifier, and white finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa. The microphone shall offer the option to interchange cartridges with diverse polar pattern.

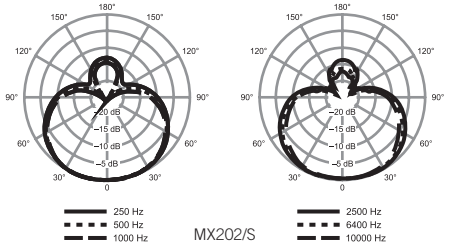
MX202WP/N – The microphone shall be an electret condenser overhead microphone with no included cartridge, 10 cm gooseneck, a plate-mounted preamplifier, and white finish. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The microphone shall offer the option to interchange cartridges with diverse polar pattern.



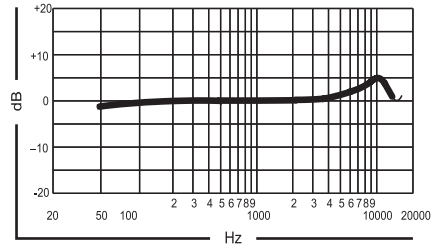


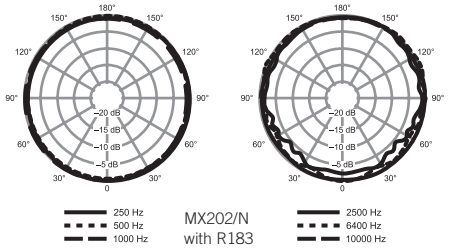
MX202/C





MX202/S





MX202/N
with R183

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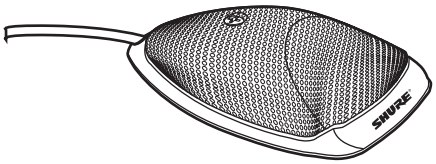
MX391, MX392, MX393 Boundary Microphones

With slim design and superior audio reproduction, Microflex Boundary Microphones are the ideal conference room solution. Equipped with features like programmable, silent membrane switches, interchangeable cartridges, logic inputs and outputs, and LED indicators, Microflex Boundary microphones provide high-quality sound for a wide range of applications.

Specifications

Type	Condenser (electret bias)	
Frequency Response	50 Hz – 17 kHz	
Polar Pattern	MX391/C, MX392/C, MX393/C: Cardioid MX391/S, MX392/S, MX393/S: Supercardioid MX391/O, MX392/O, MX393/O: Omnidirectional	
Output Impedance	EIA rated at 150 Ω (180 Ω actual)	
Logic Connections (MX392 Only)	LED IN: Active low (≤1.0 V), TTL compatible. Absolute maximum voltage: -0.7 V to 50 V. SWITCH OUT: Active low (≤0.5 V), sinks up to 20 mA, TTL compatible. Absolute maximum voltage: -0.7 V to 50 V (up to 50 V through 3 kΩ).	
Environmental Conditions	Operating temperature range: -18° C – 57° C Relative Humidity: 0 – 95%	
Power Requirements	11 – 52 Vdc phantom, 2.0 mA	
	MX391	**MX392/MX393**
Sensitivity (at 1 kHz, open circuit voltage; 1 Pascal = 94 dB SPL); All settings -12 dB at 0 gain (internal modification)	Cardioid -29.5 dB (33.5 mV) Supercardioid -28.3 dB (38.5 mV) Omnidirectional -21.8 dB (81.4 mV)	Cardioid: -27.5 dBV/Pa (42.2 mV) Supercardioid: -26.5 dBV/Pa (47.3 mV) Omnidirectional: -22.0 dBV/Pa (79.4 mV)
Maximum SPL 1 kHz at 1% THD, 1 kΩ load; All settings +6 dB at 0 gain (internal modification)	Cardioid: 118.8 dB Supercardioid: 117.5 dB Omnidirectional: 110.7 dB	Cardioid: 117.0 dB Supercardioid: 116.0 dB Omnidirectional: 111.5 dB
Equivalent Output Noise A-weighted	Cardioid: 22.6 dB SPL Supercardioid: 21.3 dB SPL Omnidirectional: 14.5 dB SPL	Cardioid: 23.0 dB Supercardioid: 22.0 dB Omnidirectional: 17.5 dB
Signal-to-Noise Ratio referenced at 94 dB SPL at 1 kHz	Cardioid: 71.4 dB Supercardioid: 72.7 dB Omnidirectional: 79.5 dB	Cardioid: 71.0 dB Supercardioid: 72.0 dB Omnidirectional: 76.5 dB
Dynamic Range 1 kΩ load at 1 kHz	96.2 dB	94.0 dB
Common Mode Rejection 10 Hz to 100 kHz	45 dB minimum, 10 Hz to 100 kHz	45 dB minimum, 10 Hz to 100 kHz
Preamplifier Output Clipping Level 1% THD	-6 dBV (0.5 V)	-6 dBV (0.5 V)
Polarity	Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of the preamplifier XLR output	Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output connector (MX393) or red wire relative to black wire (MX392).

MX391
Boundary microphone



MX392/ MX393
Boundary microphone

Available Models

The polar pattern of the cartridge is indicated by the model number suffix: C = Cardioid, O = Omnidirectional, S = Supercardioid

MX391/C, MX391/S, MX391/O	Black surface-mount microphone, attached 3.7 m cable terminated, 4-pin mini connector, separate preamplifier
MX391W/C, MX391W/S, MX391W/O	White surface-mount microphone, attached 3.7 m cable terminated, 4-pin mini connector, separate preamplifier
MX392/C, MX392/S, MX392/O	Surface-mount microphone, programmable membrane on/off switch, logic input/output terminals, on/off indicator LED, screw terminal connections, attached 3.7 m unterminated cable
MX393/C, MX393/S, MX393/O	Surface-mount microphone, programmable membrane on/off switch, on/off indicator LED, miniature three pin connector, and detachable 3.7 m cable.

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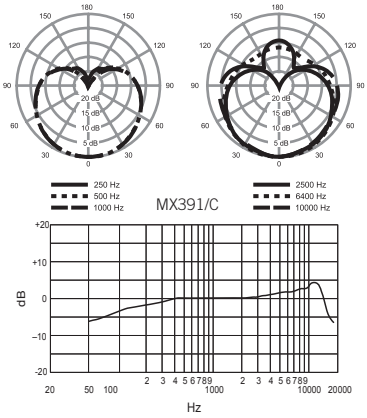
MX391, MX392, MX393 Boundary Microphones

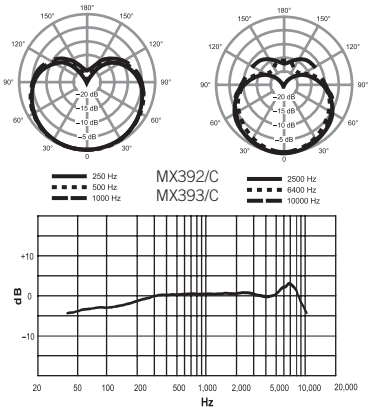
Furnished Accessories

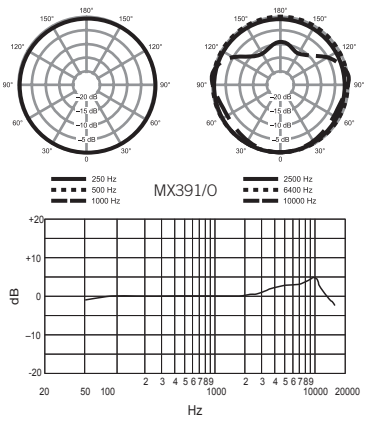
95B2313	Zipper bag	**80A541**	Switch paint mask (MX392/MX393)
80C514	Paint mask (MX392/MX393)	**36A664**	Paint plug (MX392/MX393)
RK100PK	In-line preamp (MX391/MX391W)		

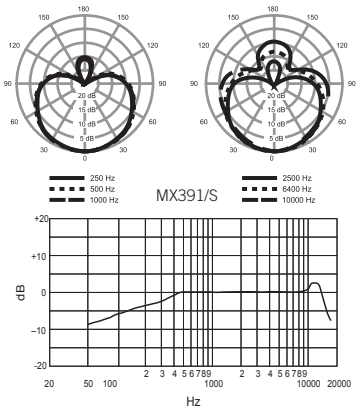
Optional Accessories and Replacement Parts

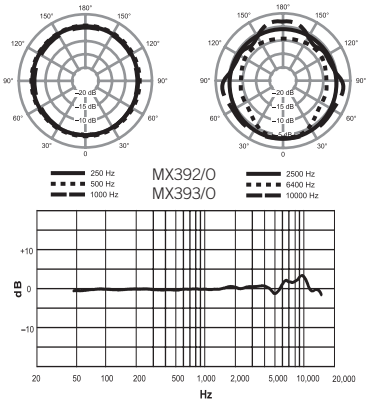
R183B	Omnidirectional cartridge for all Microflex models	**C129**	3,7 m cable 3-pin miniature connector (TA3F) to male XLR (MX393)
R184B	Supercardioid cartridge for all Microflex models	**C130**	Custom-logic cable with threaded adapter
R185B	Cardioid cartridge for all Microflex models	**15A525**	Custom logic cable (specify length)

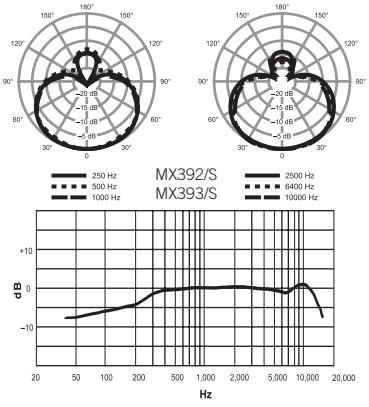












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MX391, MX392, MX393 Boundary Microphones

Architectural Specifications

MX391/C – The microphone shall be a surface mounted, black electret condenser microphone with a cardioid polar pattern, a 3.7 m cable terminated with a 4-pin mini connector, and in-line preamplifier. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 33.5 mV/Pa.

MX391/S – The microphone shall be a surface mounted, black electret condenser microphone with a supercardioid polar pattern, a 3.7 m cable terminated with a 4-pin mini connector, and in-line preamplifier. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 38.5 mV/Pa.

MX391/O – The microphone shall be a surface mounted, black electret condenser microphone with an omnidirectional polar pattern, a 3.7 m cable terminated with a 4-pin mini connector, and in-line preamplifier. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 81.4 mV/Pa.

MX391W/C – The microphone shall be a surface mounted, white electret condenser microphone with a cardioid polar pattern, a 3.7 m cable terminated with a 4-pin mini connector, and in-line preamplifier. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 33.5 mV/Pa.

MX391W/S – The microphone shall be a surface mounted, white electret condenser microphone with a supercardioid polar pattern, a 3.7 m cable terminated with a 4-pin mini connector, and in-line preamplifier. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 38.5 mV/Pa.

MX391W/O – The microphone shall be a surface mounted, white electret condenser microphone with an omnidirectional polar pattern, a 3.7 m cable terminated with a 4-pin mini connector, and in-line preamplifier. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 81.4 mV/Pa.

MX392/C – The microphone shall be a surface mounted, black electret condenser microphone with a cardioid polar pattern, programmable membrane on/off switch, and logic controlled LED indicator. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 42.2 mV/Pa.

MX392/S – The microphone shall be a surface mounted, black electret condenser microphone with a supercardioid polar pattern, programmable membrane on/off switch, and logic controlled LED indicator. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 47.3 mV/Pa.

MX392/O – The microphone shall be a surface mounted, black electret condenser microphone with an omnidirectional polar pattern, programmable membrane on/off switch, and logic controlled LED indicator. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 79.4 mV/Pa.

MX393/C – The microphone shall be a surface mounted, black electret condenser microphone with a cardioid polar pattern, programmable membrane on/off switch with LED indicator. The microphone shall include a removable 3.7 m cable, connected to the microphone through a TA3F connector and which terminates to a XLR connector. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 42.2 mV/Pa.

MX393/S – The microphone shall be a surface mounted, black electret condenser microphone with a supercardioid polar pattern, programmable membrane on/off switch with LED indicator. The microphone shall include a removable 3.7 m cable, connected to the microphone through a TA3F connector and which terminates to a XLR connector. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 47.3 mV/Pa.

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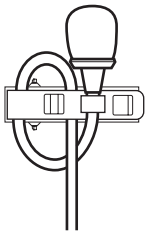
MX150 Subminiature Condenser Lavalier Microphone

The Shure Microflex MX150 is a professional subminiature electret condenser lavalier microphone ideal for use in speech and other applications requiring low profile, discreet placement. Available with cardioid or omnidirectional patterns, the MX150 provides uncompromised sound quality and high reliability with minimal visibility for use in television broadcasting, corporate and educational lectures, A/V teleconferencing, and sound reinforcement.



MX150 with tie clip and windscreen

Features

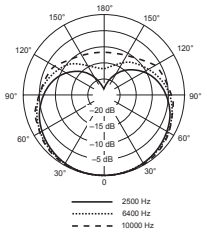
- Available in cardioid or omnidirectional polar patterns and TQG/TA4F (for use in Shure bodypacks) or wired XLR variations
- CommShield® technology guards against interference from cellular RF devices and digital bodypack transmitters
- Matte black, sleek, low-profile, design for inconspicuous placement
- Multi-position tie clip allows for a variety of placement options and features an integrated cable management system for convenient cable dress with minimized handling noise.
- Kevlar-reinforced soft-flex cable design further reduces handling noise while providing superior flexibility for routing and placement
- User-changeable equalization caps for response shaping (omnidirectional only)
- Snap-fit, concise windscreen provides protection from plosives and wind noise with minimal visibility

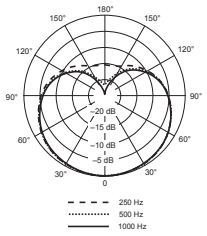
Available Models

MX150B/O-TQG	Microflex subminiature condenser lavalier microphone, omnidirectional, TQG connector
MX150B/C-TQG	Microflex subminiature condenser lavalier microphone, cardioid, TQG connector
MX150B/O-XLR	Microflex subminiature condenser lavalier microphone, omnidirectional, XLR connector
MX150B/C-XLR	Microflex subminiature condenser lavalier microphone, cardioid, XLR connector

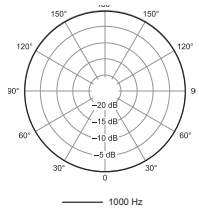
Specifications

	MX150/C	**MX150/O**
Transducer Type	Electret condenser	Electret condenser
Polar Pattern	Cardioid	Omnidirectional
Frequency Response	20 – 20 kHz	20 – 20 kHz
Output Impedance	TQG: N/A, XLR: 165.5 Ω	TQG: N/A, XLR: 165.0 Ω
Sensitivity open circuit voltage, @ 1 kHz, typical	TQG: -51.0 dBV/Pa (3.0 mV) XLR: -39.0 dBV/Pa (11.0 mV)	TQG: -46.5 dBV/Pa (4.5 mV) XLR: -34.5 dBV/Pa (19.0 mV)
Maximum SPL 1 kHz at 1% THD, 2500 Ω Load	TQG: 147.5 dB SPL XLR: 134.5 dB SPL	TQG: 143.0 dB SPL XLR: 130 dB SPL
Signal-to-Noise Ratio	TQG: 57.5 dB XLR: 57.0 dB	TQG: 60.0 dB XLR: 59.5 dB
Clipping Level 1 kHz at 1% THD, 2500 Ω Load	TQG: 2.0 dBV XLR: 1.0 dBV	TQG: 2.0 dBV XLR: 1.0 dBV
Common Mode Rejection 20 Hz – 20 kHz	TQG: N/A XLR: ≥60 dB	TQG: N/A XLR: ≥60 dB
Dynamic Range @ 1 kHz, 2500 Ω Load	TQG: 111.0 dB SPL XLR: 97.5 dB SPL	TQG: 109.0 dB SPL XLR: 95.5 dB SPL
Self Noise equivalent SPL, A-weighted, typical	TQG: 36.5 dB XLR: 37.0 dB	TQG: 34.0 dB XLR: 34.5 dB
Operating Temperature Range	-18°C to 57°C	-18°C to 57°C
Polarity	TQG: Positive pressure on diaphragm produces positive voltage on pin 3 with respect to pin 1 XLR: Positive pressure on diaphragm produces positive voltage on pin 2 with respect to pin 3	
Power Requirements	TQG: 5 V DC (0.04 – 0.18 mA) XLR: 11-52 V DC phantom power (IEC-61938), < 2.2 mA	TQG: 5 V DC (0.04 – 0.18 mA) XLR: 11-52 V DC phantom power (IEC-61938), < 2.2 mA
Cable Length	1.52 m	1.52 m
Weight	TQG: 21 g XLR: 121 g	TQG: 21 g XLR: 121 g





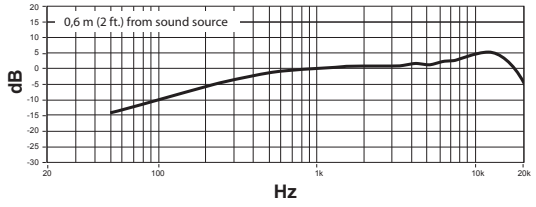
MX150/C Polar Pattern



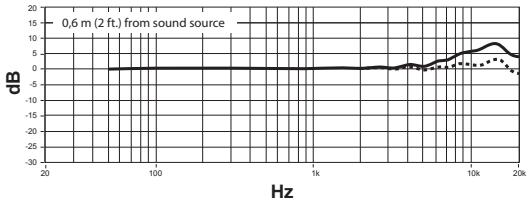
MX150/O Polar Pattern

Accessories

WA150	Storage pouch for MX150
WA330	TQG/TA4F 4 pin connector
RK100PK	XLR preamp



MX150/C Frequency Response



Boost Cap
Normal Cap

MX150/O Frequency Response

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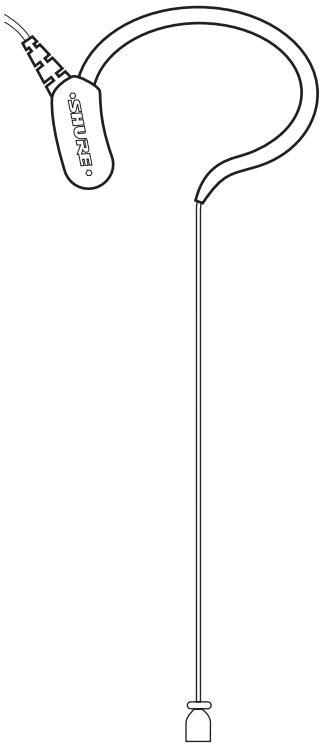
MX153 Earset Headworn Microphone

The Shure Microflex MX153 is a professional subminiature earset microphone ideal for speech and other applications requiring low-profile discreet placement where improved gain before feedback over lavalier microphones is desired. Delivering exceptional speech clarity, the MX153 is ideal for corporate and educational presentations, A/V conferencing and live sound reinforcement. Available in three color options and direct TA4F connectivity to Shure bodypacks, the MX153 provides outstanding clarity in an extremely comfortable, over the ear design.

Features

- Subminiature, omnidirectional cartridge offers superior speech clarity and enhanced plosive protection with no proximity effect
- Terminated with TQG/TA4F connector for direct connectivity to Shure wireless bodypack transmitters
- Ultra-lightweight, comfortable, flexible design is stable and easy to place over either ear
- CommShield® technology guards against interference from cellular RF devices and digital bodypack transmitters
- Kevlar reinforced, attached soft-flex cable
- Matte black, tan, and cocoa color options available
- Includes protective storage pouch, 3 windscreens, and collar clip



MX153 Earset
Headworn Microphone

Available Models

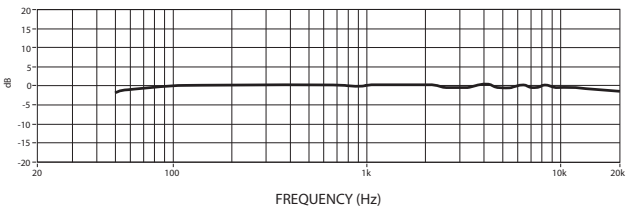
MX153B/O-TQG	Microflex earset headworn condenser microphone, omnidirectional, TQG connector, black
MX153T/O-TQG	Microflex earset headworn condenser microphone, omnidirectional, TQG connector, tan
MX153C/O-TQG	Microflex earset headworn condenser microphone, omnidirectional, TQG connector, cocoa

Specifications

	MX153
Transducer Type	Electret condenser
Polar Pattern	Omnidirectional
Frequency Response	20 Hz – 20 kHz
Output Impedance	N/A
Sensitivity open circuit voltage, @ 1 kHz, typical	-41 dBV/Pa (9 mV)
Maximum SPL 1 kHz at 1% THD	2500 Ω load: 107 dB SPL 1000 Ω load: 107 dB SPL
Signal-to-Noise Ratio	60 dB
Dynamic Range @ 1 kHz	2500 Ω load: 73 dB 1000 Ω load: 73 dB
Common Mode Rejection 20 Hz – 20 kHz	N/A
Self Noise equivalent SPL, A-weighted, typical	34 dB
Operating Temperature Range	-18°C to 57°C
Polarity	Positive pressure on diaphragm produces negative voltage on pin 3 with respect to pin 1
Power Requirements	+1-5 V DC (500 µA maximum)
Weight	19.8 g

Accessories

WA150	Storage pouch for MX150
WA330	TQG/TA4F 4 pin connector
RK100PK	XLR preamp



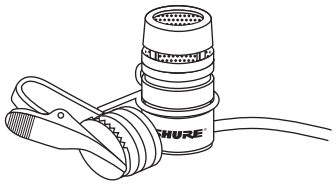
SHURE®
LEGENDARY
PERFORMANCE™

MX183, MX184, MX185 Lavalier Microphones

Attached to a tie or lapel, Microflex Lavalier Microphones offer freedom of movement to any situation involving voice reproduction. As stylish as they are convenient, Lavaliers are available in different directional patterns, come with multiple clip options, and are compatible with all Shure wireless platforms.

Specifications

Type	Condenser (electret bias)
Frequency Response	50 Hz – 17 kHz
Polar Pattern	MX183: Omnidirectional MX184: Supercardioid MX185: Cardioid
Output Impedance	EIA rated at 150 Ω (170 Ω actual)
Sensitivity (at 1 kHz, open circuit voltage; 1 Pascal = 94 dB SPL; all settings -12 dB at 0 gain)	MX183: -27.5 dB (42.2 mV) MX184: -33.5 dB (21.1 mV) MX185: -35.4 dB (17.0 mV)
Maximum SPL (1 kHz at 1% THD, 1 kΩ load; all settings +6 dB at 0 gain)	MX183: 116.7 dB MX184: 122.7 dB MX185: 124.2 dB
Equivalent Output Noise A-weighted	MX183: 20.5 dB MX184: 26.5 dB MX185: 28.0 dB
Signal-to-Noise Ratio referenced at 94 dB SPL at 1 kHz	MX183: 73.5 dB MX184: 67.5 dB MX185: 66.0 dB
Dynamic Range 1 kΩ load at 1 kHz	96.2 dB 100 dB at 0 gain (internal modification)
Common Mode Rejection 10 Hz to 100 kHz	45 dB minimum
Polarity	Positive sound pressure on diaphragm produces positive voltage on pin 2 relative to pin 3 of output XLR connector.
Environmental Conditions	Operating temperature range: -18°– 57° C Storage temperature range: -29° – 74° C
Power Requirements	11 – 52 Vdc phantom, 2.0 mA
Cable	Shielded 1.2 m cable terminated with a 4-pin female mini connector (TA4F)



MX183/ MX184/ MX185
Lavalier microphone

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Available Models

MX183	Omnidirectional, includes belt-clip preamp, rotatable tie clip, dual tie clip, snap-fit windscreen
MX184	Supercardioid, includes belt-clip preamp, rotatable tie clip, dual tie clip, snap-fit windscreen
MX185	Cardioid, includes belt-clip preamp, rotatable tie clip, dual tie clip, snap-fit windscreen

SHURE®
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MX183, MX184, MX185 Lavalier Microphones

Furnished Accessories

26A13	Zipper bag	**RK183T1**	Tie clip
RK261BWS	Foam windscreen	**RK183T2**	Dual tie clip
RK183WS	Snap-fit windscreen	**RK100PK**	In-line preamp
80A67	Hex wrench #4		

Optional Accessories and Replacement Parts

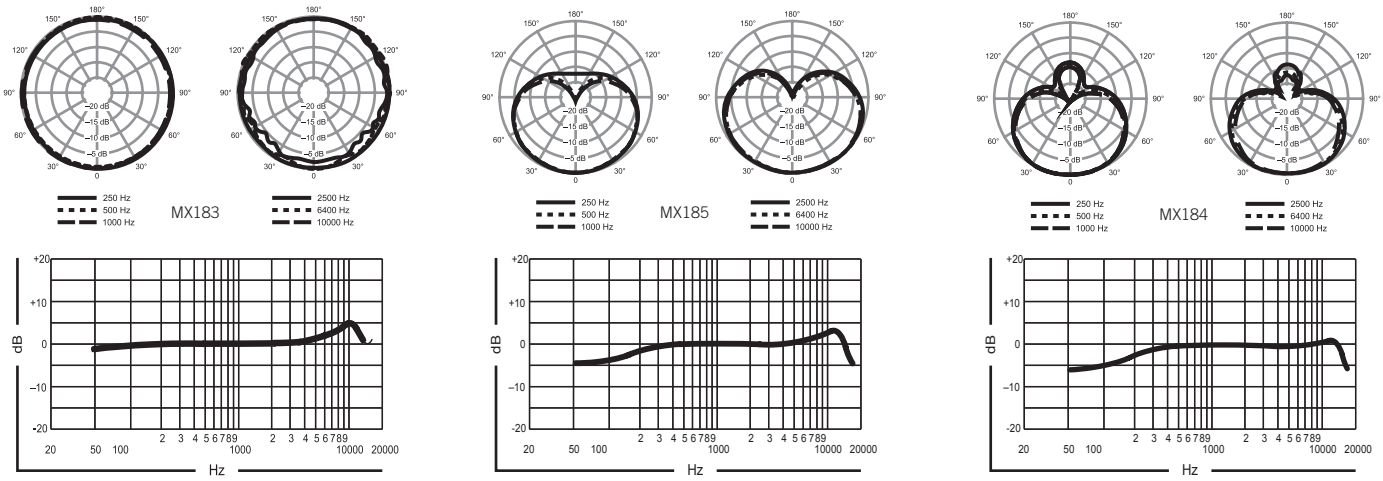
R183B	Omnidirectional cartridge for all Microflex models	**R184B**	Supercardioid cartridge for all Microflex models	**R185B**	Cardioid cartridge for all Microflex models
MX1BP	Battery powered preamp	**53A2133A**	Belt clip for in-line preamp	**WA333**	4-pin female mini connector (TA4F)
C133	Replacement cable, Microphone to preamp				

Architectural Specifications

MX183 – The microphone shall be black electret condenser lavalier microphone with an omnidirectional polar pattern, in-line belt-clip preamp, and 1.2 m cable that terminates with a 4-pin miniature (TA4F) connector. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 42.4 mV/Pa.

MX184 – The microphone shall be a black electret condenser lavalier microphone with a supercardioid polar pattern, in-line belt-clip preamp, and 1.2 m cable that terminates with a 4-pin miniature (TA4F) connector. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 21.1 mV/Pa.

MX185 – The microphone shall be a black electret condenser lavalier microphone with a cardioid polar pattern, in-line belt-clip preamp, and 1.2 m cable that terminates with a 4-pin miniature (TA4F) connector. The microphone shall be resistant to RF interference from portable mobile and handheld devices. The frequency response shall be 50 Hz to 17 kHz and the sensitivity shall be 17.0 mV/Pa.



Europe, Middle East, Africa:
Shure Europe GmbH
Jakob-Dieffenbacher-Str. 12
75031 Eppingen, Germany

Phone: 49-7262-92490
Fax: 49-7262-9249114
Email: info@shure.de

United Kingdom, Ireland:
Shure Distribution UK
Unit 2 The I O Centre
Lea Road
Waltham Abbey EN9 1AS
United Kingdom

Phone: +44 (0) 1992 703058
Fax: +44 (0) 1992 703057
Email: info@shuredistribution.co.uk
www.shure.co.uk

www.shure.eu

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